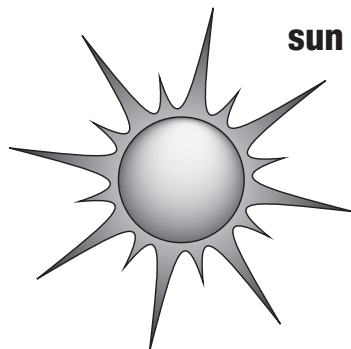


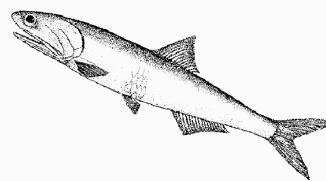
Marine Foodweb



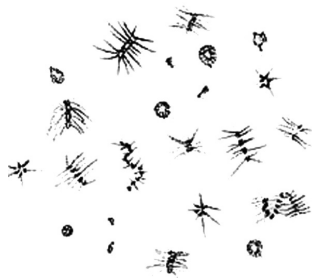
sun



eelgrass



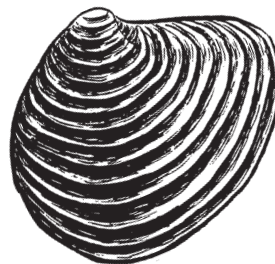
anchovy



phytoplankton



zooplankton

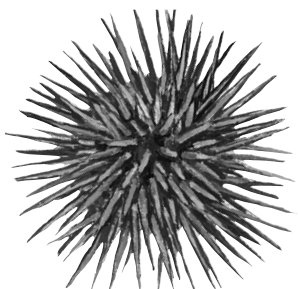
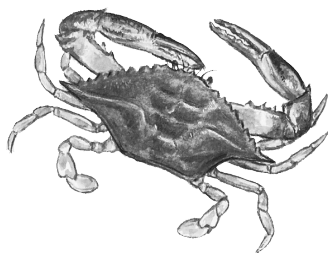


littleneck clam



pacific oyster

red rock crab

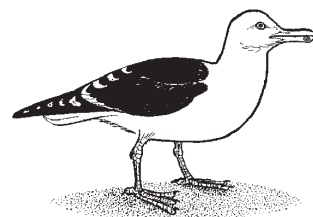


purple urchin



common
market squid

western gull



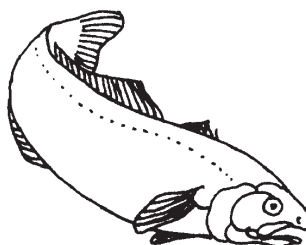
brown pelican



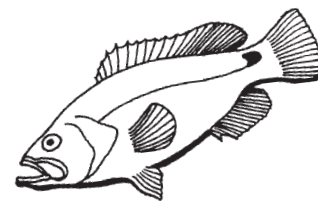
double-crested
cormorant



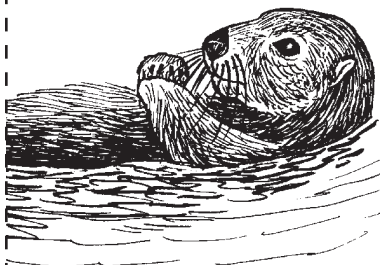
chinook salmon



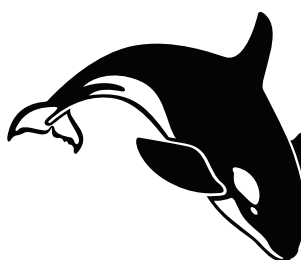
copper rockfish



sea otter



sea lion



killer whale

human



Anchovy, *Engraulis mordax*, feed on planktonic crustaceans and fish larvae. It is an important food source for California halibut, rock fish, yellow tail tuna, shark, chinook, and coho salmon, the brown pelican & marine mammals.

Eelgrass, *Zostera marina*, is not a seaweed; it is a blooming underwater grass which spreads by rhizomes or roots. Diatoms & bacteria gather on the leaves providing food for many invertebrates and some clams.

The **Sun** is the basis of all life on this planet. It is the main form of energy that plants use to produce food via photosynthesis.

Pacific Oyster, *Crassostrea gigas*, filters plankton from the water (straining up to 60 gallons of water a day.) It depends on a very thick shell to ward off an attack by a crab or gull who want to eat it. Humans also love to eat oysters; oyster farming is an important industry in the Pacific Northwest.

Littleneck Clam, *Protothaca staminea*, is a filter feeder, eating plankton that floats in the water column. It burrows down into the mud but it lives near the surface so it often gets eaten by crabs, fish, gulls, and large snails.

Zooplankton is made up of hundreds of thousands of different species of animals. Some are baby or larval forms of the animals while others spend their whole life as free-floating organisms. Many feed on each other and then become the bottom of a food chain for an entire food web stretching from the smallest fish to the largest whale.

Phytoplankton are like land plants in that they have chlorophyll and need sunlight to live and grow. The two main classes are diatoms and dinoflagellates. They provide food for a wide range of sea creatures including whales, shrimp, snails, and jellyfish.

Western Gull, *Larus occidentalis*, will eat almost anything. It catches live prey (fish, crabs, clams, snails), scavenges for leftovers and garbage, and even steals food from seals and other birds. It can crack shells by dropping things from the air and can gulp large food items. It is sometimes eaten by sharks, sea lions, or killer whales.

Common Market Squid, *Loligo opalescens*, is a carnivore. It has large eyes that help it hunt at night and in deep dark water. It uses tentacles to catch shrimp or fish and a parrot-like beak to hold and tear its food into pieces. It is eaten by birds, fish, sharks, and people.

Purple Urchin, *Strongylocentrotus purpuratus*, feeds entirely on plant material. It grabs food floating in the water and scrapes food off of rocks. It is eaten by fish, sea otters, several sea stars and humans (who eat the eggs).

Red Rock Crab, *Cancer productus*, is a heavily armored crab that hunts in the intertidal zone. It likes live food (barnacles, snails, and small crabs) but also scavengers for dead materials. Many seabirds and some types of fish prey upon the crab and humans love to eat it.

Copper rockfish, *Sebastes caurinus*, begins its life feeding on zooplankton but it eats larger crustaceans (shrimp, crabs), squid and fish as it grows older. The copper rockfish is eaten by larger fish (lingcod, salmon) sea birds, and marine mammals. Humans also like to eat them because they taste delicious and are a popular sportfish.

Chinook Salmon, *Oncorhynchus tshawytscha*, feeds on terrestrial and aquatic insects, amphipods, and other crustaceans when it is young. It is a carnivore and it consumes zooplankton, small invertebrates and other fish (herring) as it gets older. Salmon are an important food source for killer whales, sea lions, and humans.

Double-Crested Cormorant, *Phalacrocorax auritus*, dives (up to 40 ft.) below the surface to catch food or looks for slow moving fish, insects, or crustaceans in shallow water. Their hooked bill is a tool for hanging onto their slippery prey.

Brown Pelican, *Pelecanus occidentalis*, dives from 30 feet or more in the air, plunging headfirst into the water to catch fish. If successful, it throws its head back to swallow its prey. It sometimes eats crabs, scavengers, or takes handouts from fisherman. The pelican can be eaten by sharks or killer whales, and has been found drowned in fishing nets.

Human, *Homo sapiens*, loves to eat seafood. Some of its favorites are shellfish (clams, mussels, oysters) and fin fish (herring, salmon, cod) but it also likes to eat seaweed, sea salt, and fish eggs. The human does not have any predators that live in the ocean.

Killer Whale, *Orcinus orca*, is a toothed whale. This carnivore eats mostly fish or marine mammals but can also eat birds, squid, sharks or other whales. It is fierce predator that sometimes hunts in packs with other killer whales. It is the top predator in the ocean.

Sea Lion, *Zalophus californianus*, feeds on a wide variety of seafood, mainly squid and fish, and sometimes even clams. Near river mouths, they wait to hunt salmon that are returning to freshwater to spawn. Killer whales and great white shark will eat sea lions.

Sea Otter, *Enhydra lutris*, is a marine mammal that lives near the shore but almost never comes out of the water. It finds food (urchins, snails) on the seafloor and sometimes eats fish. It uses rocks as tools to pry food off of rocks and to crack shells. It does not have very many predators but humans used to hunt it for its fur.